

10/530014  
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January 24, 2005

**VIA FACSIMILE (011-41-22-740-14-35)**

International Bureau of WIPO  
34, chemin des Colombettes  
1211 Geneva 20, Switzerland

Dear Sirs/Mesdames:

**RE: PCT Patent Application No. PCT/CA03/01514**  
**Int'l Filing Date: October 1, 2003**  
**Title: MULTIPLE PLATE COMBUSTOR**  
**Inventor: Mehrzad Movassaghi**  
**Applicant: Powertech Industries Inc., et al.**  
**Priority: Italian Patent Application No. T02002A00850 filed October 1, 2002**  
**Our File: 1491-143**

In response to the International Search Report dated November 23, 2004, and in respect of Article 19, Applicant hereby amends the claims of the present application and submits the following explanatory remarks. Replacement pages and mark up pages showing the Amendments are enclosed.

Applicant has amended claims 5 – 6 and canceled claims 10 – 11.

Yours truly,

**VERMETTE & CO.**

*Clifford W. Vermette*  
per. Clifford W. Vermette  
Agent for the Applicant

CWV/jla/kjg

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4. A pulse combustor according to claim 1, wherein each of said plates is made of spiral wound hollow stainless steel tubing.
- 5 5. A pulse combustor according to claim 4, wherein said outer plates each have a conical region proximate said combustion chamber, which conical region extends outwardly.
6. A pulse combustor according to claim 4, including  
10 spacers between each plate to set the separation between adjacent plates.
7. A pulse combustor according to claim 6, wherein said burner assembly further includes a parabolic cone mounted  
15 inside said elongated hollow tube with a circular end of said parabolic cone aligned with one end of said hollow elongated tube.
8. A pulse combustor according to claim 1, including an  
20 inlet to said coolant passageway at a periphery thereof and an outlet from said coolant passageway proximate a center of said so that coolant flow is counter to ignited gas flow through said tailpipe regions.
- 25 9. A pulse combustor according to claim 6, wherein said hollow elongated tube is cylindrical and has a plurality of radially spaced apart elongated slots extending along a length of its cylindrical surface and including a plurality of elongated nozzle assemblies having nozzle openings spaced  
30 along its length, said nozzle assemblies having a plenum

accessing said nozzle openings and each nozzle assembly  
affixed to an outer surface of said cylinder over an  
associated slot.

1 5

4. A pulse combustor according to claim 1, wherein each of said plates is made of spiral wound hollow stainless steel tubing.
- 5 5. A pulse combustor according to claim 14, wherein  
~~including a flame spreader mounted in said combustion~~  
~~chamber on an interior side of a hub affixed to an outer~~  
~~plates opposite to said burner and operative to direct a~~  
~~flow of ignited gas between said outer and intermediate~~  
10 plates each have a conical region proximates said  
combustion chamber, which conical region extends  
outwardly.
6. A pulse combustor according to claim 14, including  
15 ~~spacers a burner assembly mounted in said combustion~~  
~~chamber having a elongated hollow tube with nozzle~~  
~~openings spaced around a cylindrical surface thereof to~~  
~~equalize gas flow into tailpipe regions between each~~  
~~adjacent ones of said intermediate and outer plates to~~  
20 set the separation between adjacent plates.
7. A pulse combustor according to claim 6, wherein said burner assembly further includes a parabolic cone mounted inside said elongated hollow tube with a circular end of  
25 said parabolic cone aligned with one end of said hollow elongated tube.
8. A pulse combustor according to claim 1, including an inlet to said coolant passageway at a periphery thereof  
30 and an outlet from said coolant passageway proximate a

center of said so that coolant flow is counter to ignited gas flow through said tailpipe regions.

9. A pulse combustor according to claim 6, wherein said  
5 hollow elongated tube is cylindrical and has a plurality  
of radially spaced apart elongated slots extending along  
a length of its cylindrical surface and including a  
plurality of elongated nozzle assemblies having nozzle  
openings spaced along its length, said nozzle assemblies  
10 having a plenum accessing said nozzle openings and each  
nozzle assembly affixed to an outer surface of said  
cylinder over an associated slot.

10. ~~A burner assembly for use in a combustion chamber,~~  
15 ~~comprising:~~

~~— (a) an elongated hollow tube, having a plurality of  
nozzle openings along its cylindrical surface,~~

20 ~~— (b) a parabolic cone mounted inside said elongated  
hollow tube with a circular end of said parabolic cone  
aligned with one end of said hollow elongated tube,~~

~~— wherein said hollow tube is couplable to a burner  
25 nozzle such that upon ignition of a fuel mixture in said  
hollow tube, ignited gas escapes uniformly around and  
along said hollow tube.~~

11. ~~A burner assembly according to claim 10, wherein  
30 said elongated hollow tube is cylindrical and has a  
plurality of radially spaced apart elongated slots  
extending along a length of its cylindrical surface and~~

~~including a plurality of elongated nozzle assemblies  
having nozzle openings spaced along its length, said  
nozzle assemblies having a plenum accessing said nozzle  
openings and each nozzle assembly affixed to an outer  
5 surface of said cylinder over an associated slot.~~

4. A pulse combustor according to claim 1, wherein each of said plates is made of spiral wound hollow stainless steel tubing.

5 5. A pulse combustor according to claim 1, including a flame spreader mounted in said combustion chamber on an interior side of a hub affixed to an outer plate opposite to said burner and operative to direct a flow of ignited gas between said outer and intermediate plates.

10 6. A pulse combustor according to claim 1, including a burner assembly mounted in said combustion chamber having a elongated hollow tube with nozzle openings spaced around a cylindrical surface thereof to equalize gas flow into  
15 tailpipe regions between adjacent ones of said intermediate and outer plates.

7. A pulse combustor according to claim 6, wherein said burner assembly further includes a parabolic cone mounted  
20 inside said elongated hollow tube with a circular end of said parabolic cone aligned with one end of said hollow elongated tube.

8. A pulse combustor according to claim 1, including an  
25 inlet to said coolant passageway at a periphery thereof and an outlet from said coolant passageway proximate a center of said so that coolant flow is counter to ignited gas flow through said tailpipe regions.

9. A pulse combustor according to claim 6, wherein said hollow elongated tube is cylindrical and has a plurality of radially spaced apart elongated slots extending along a length of its cylindrical surface and including a plurality of elongated nozzle assemblies having nozzle openings spaced along its length, said nozzle assemblies having a plenum accessing said nozzle openings and each nozzle assembly affixed to an outer surface of said cylinder over an associated slot.

10. A burner assembly for use in a combustion chamber, comprising:

(a) an elongated hollow tube, having a plurality of nozzle openings along its cylindrical surface;

(b) a parabolic cone mounted inside said elongated hollow tube with a circular end of said parabolic cone aligned with one end of said hollow elongated tube,

wherein said hollow tube is couplable to a burner nozzle such that upon ignition of a fuel mixture in said hollow tube, ignited gas escapes uniformly around and along said hollow tube.

11. A burner assembly according to claim 10, wherein said elongated hollow tube is cylindrical and has a plurality of radially spaced apart elongated slots extending along a length of its cylindrical surface and including a plurality of elongated nozzle assemblies having nozzle openings spaced



along its length, said nozzle assemblies having a plenum accessing said nozzle openings and each nozzle assembly affixed to an outer surface of said cylinder over an associated slot.

5

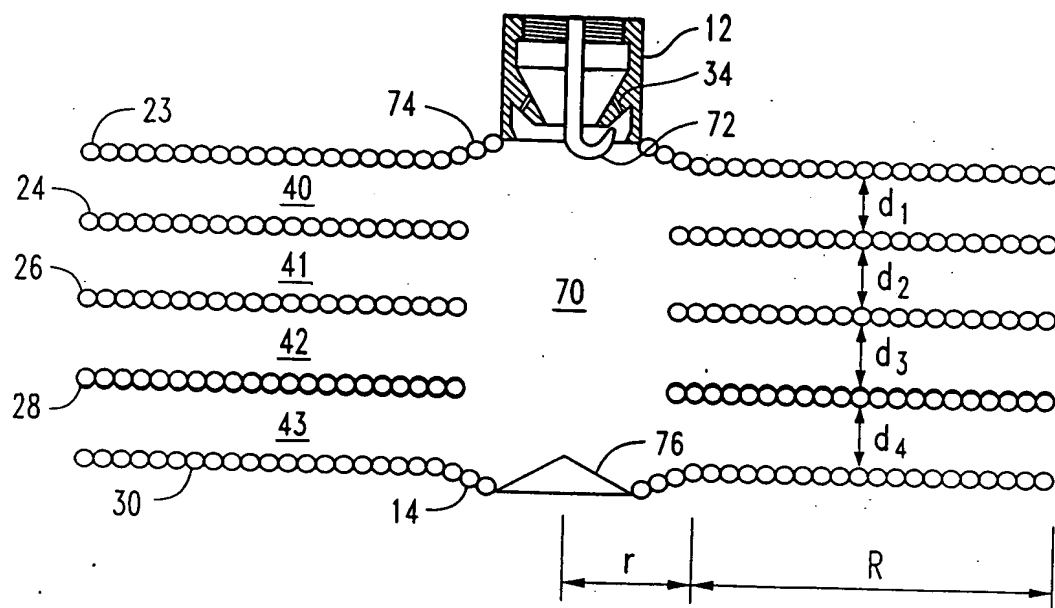


FIG. 1A

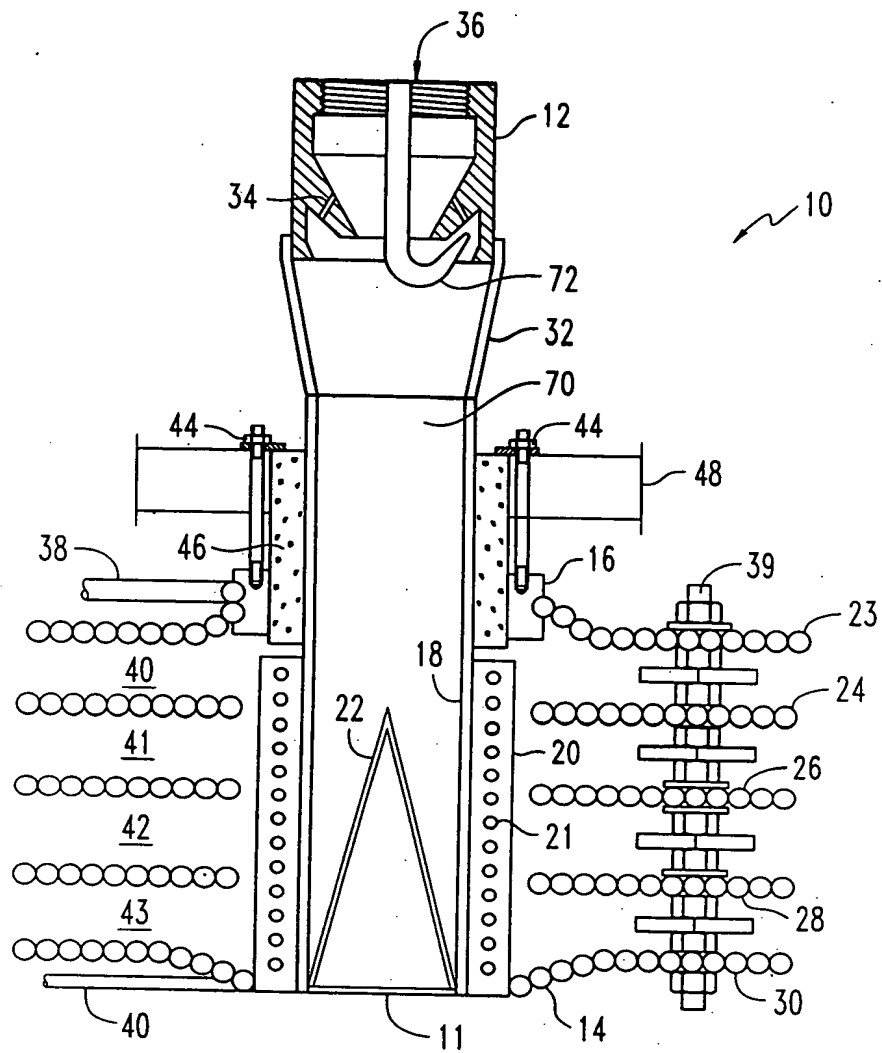


FIG. 1B

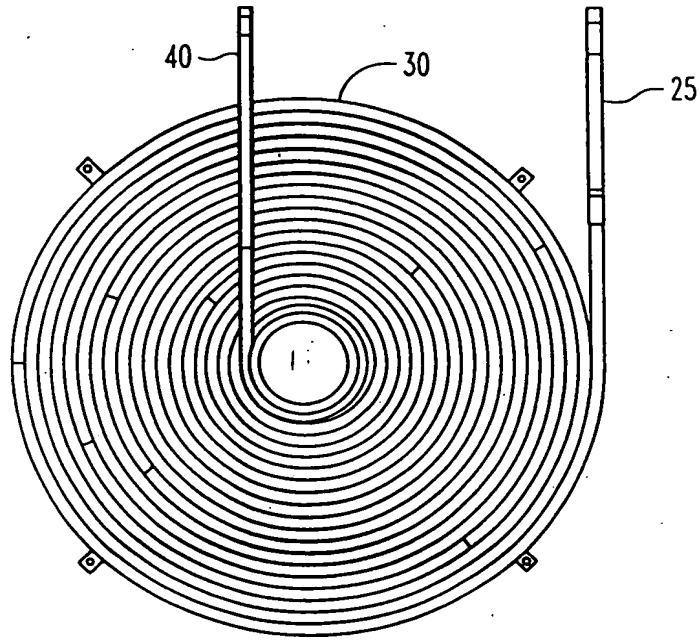
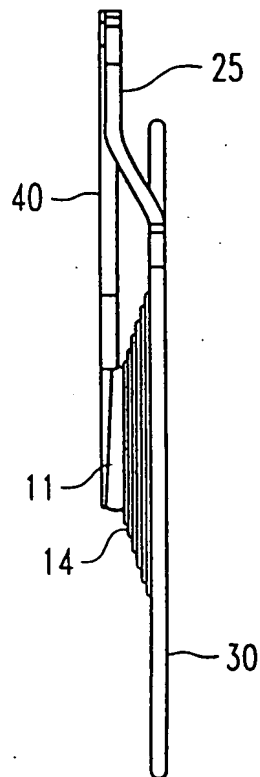


FIG. 2A



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FIG. 2B

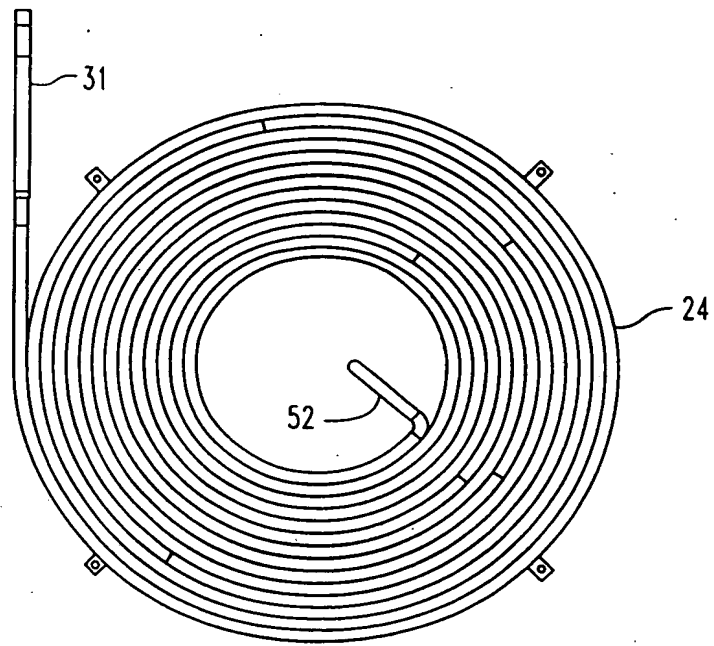


FIG. 3A

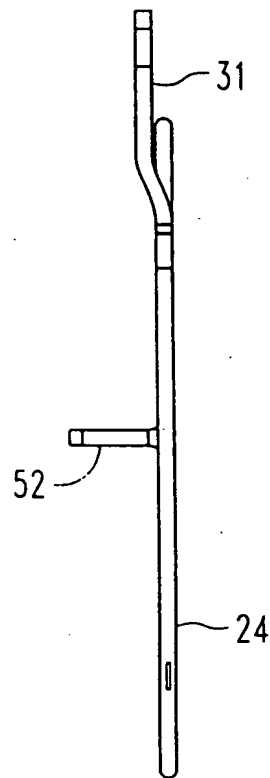


FIG. 3B

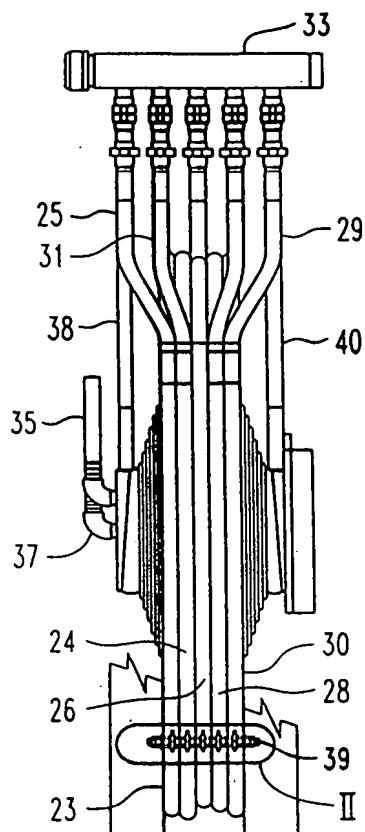


FIG. 4A

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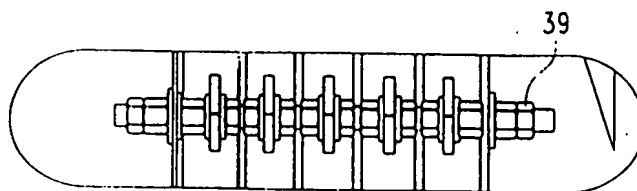


FIG. 4B

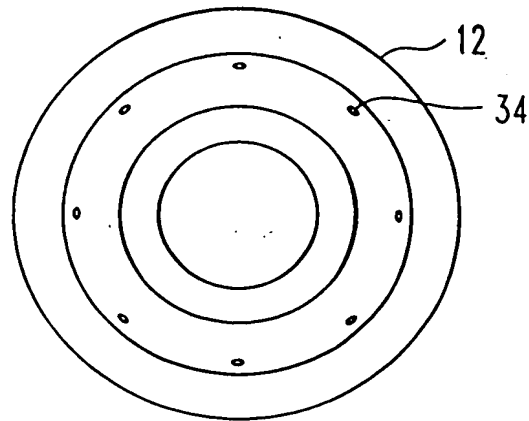


FIG. 5A

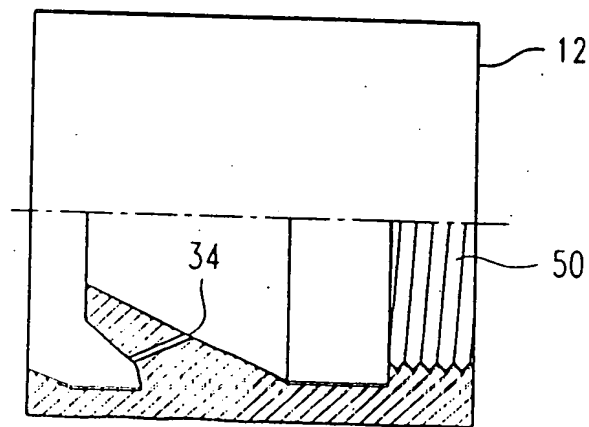


FIG. 5B

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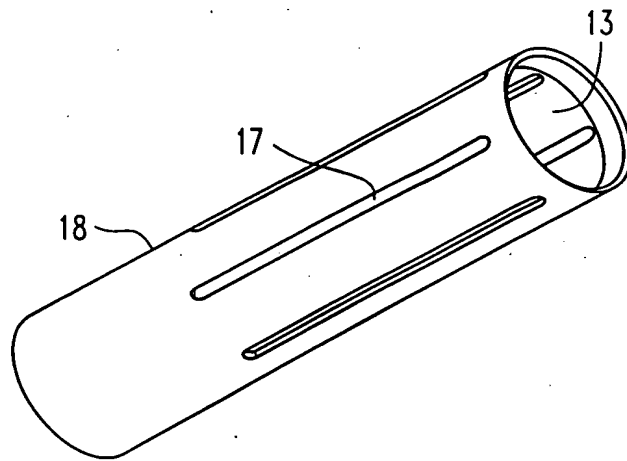


FIG. 6A

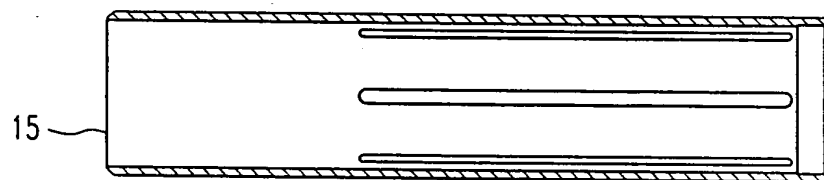


FIG. 6B



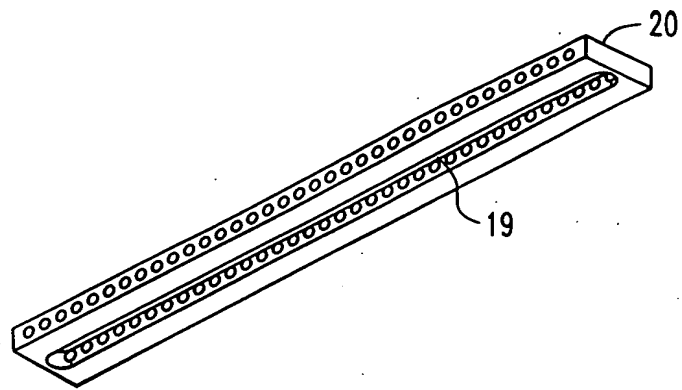


FIG. 7A

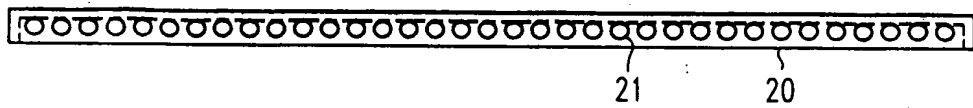


FIG. 7B

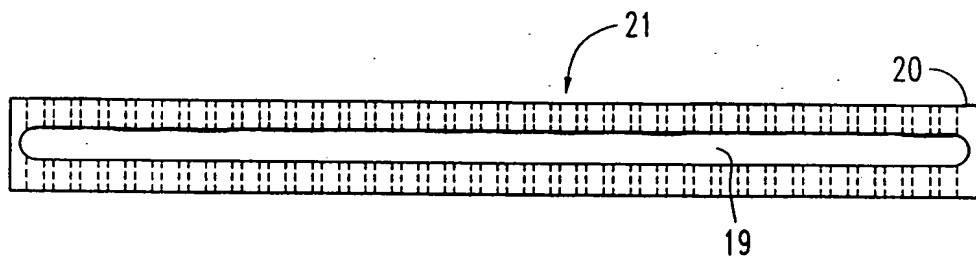


FIG. 7C

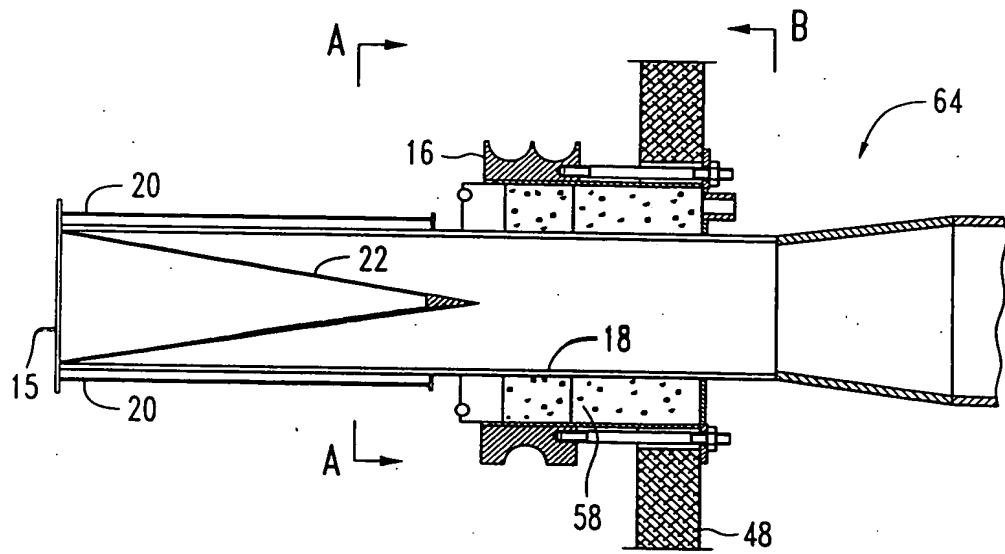


FIG. 8A

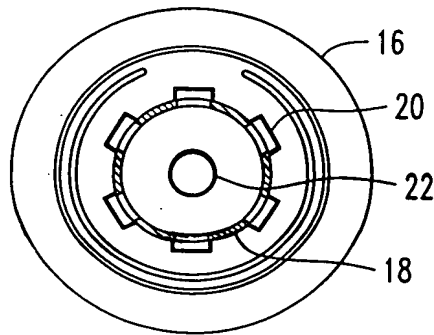


FIG. 8B

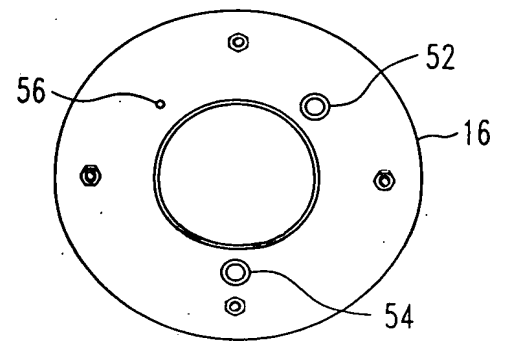


FIG. 8C

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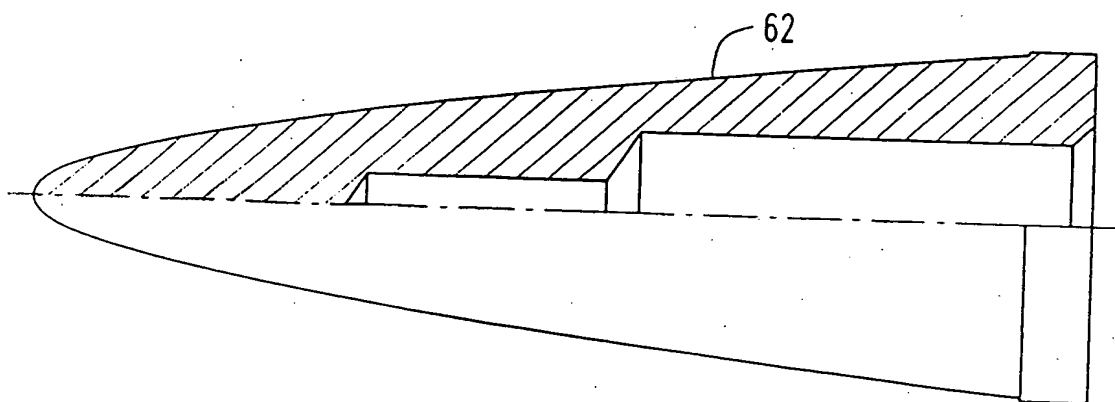


FIG. 9

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